

High-Tensile  
Galvanised

COLFORM  
**PURLIN**

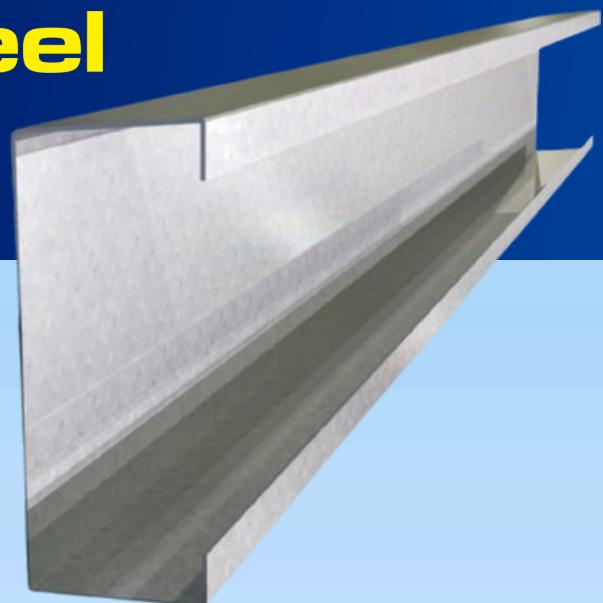
## High Tensile Steel

*Increase strength, reduce weight,  
and longer serviceable life.*

Various sizes of

75, 100, 125,  
150, 200, 250 & 300

with thickness of  
1.00mm, 1.20mm, 1.60mm, 2.00mm and 2.50mm



Another  
quality product  
from



**COLFORM PURLIN** [Sections] are available in various sized of 100, 125, 150, 200, 250 and 300 with steel thickness of 1.00mm, 1.20mm, 1.60mm, 2.00mm and 2.50mm produced from high-tensile zinc-coated steel.

Due to the lightweight and high strength Zinc-coated steel, **COLFORM PURLIN** are versatile and economical and require minimal maintenance throughout the life span of the building. They are ideal as supports for wall cladding, roofing and as structural frames for buildings.

## MATERIAL SPECIFICATION

Thickness	: 1.00mm, 1.20mm, 1.60mm, 2.00mm, 2.50mm
Steel Grade	: ASTM 446 Grade D (AS 1397-G450)
Yield Strength	: 450 Mpa (minimum)
Zinc-Coated	: 180g/m <sup>2</sup> - 275g/m <sup>2</sup>
Mechanical Property	: Y/P Min. 450 MPa T/S Min. 510 MPa E/L Min. 10%
Tolerances	: Thickness : $\pm 0.18\text{mm}$ Depth : $\pm 1\text{mm}$ Flange Width : $\pm 2\text{mm}$ Length : $\pm 3\text{mm}$ Hole Centres : $\pm 1.5\text{mm}$

## STORAGE AND HANDLING

Purlins should be stored in dry places and kept dry before use. Stack them clear of the ground with timbers sleepers and cover them from the wet. If they get wet during transportation or storage, the purlins must be wiped dry with clean cloth as soon as possible and separate them until fully dried. During loading and unloading, or when lifting onto the top of the building, take care not to drop the purlins or hit them against the building.

## DESIGN PRINCIPLE FOR PURLIN SELECTION TABLE

The purlin selection tables are derived based on BS 5950 : Part 5 : 1987, "Code of Practice for Design of Cold-Formed Section".

1. Purlin is simply supported with pinned joints over supports.

### 2. ROOF PITCH

The purlin selection tables are only applicable for roof pitch less than or equal to 30°.

### 3. LOADING

Beside dead load arising from roof self weight, the purlins are designed based on a live load of 0.25kN/m<sup>2</sup>, (Malaysian Building by Law Clause 63) and wind load (uplift) of 0.50kN/m<sup>2</sup> respectively.

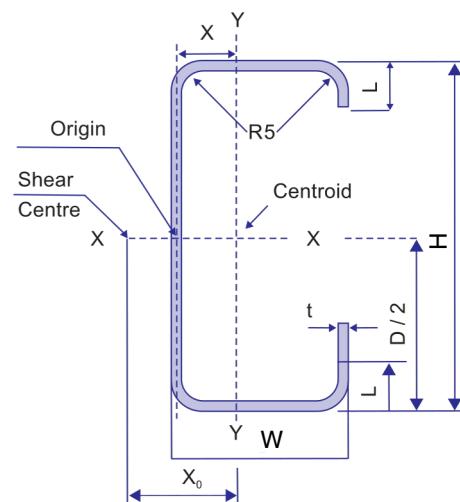
- i) 1.4 D.L. + 1.6 L.L. (The most severe inward loading combination)
- ii) 1.0 D.L. + 1.4 W.L. (The most severe outward loading combination)

### 4. DEFLECTION

Under serviceability limit state the limiting deflection under total load is L/150 whereas under the live load only is L/180 (where L is the purlin span).

### 5. DESIGN STRENGTH Py

The design strength Py for purlins is to be taken as the minimum yield strength of 450 N/mm<sup>2</sup>.



Note: X, Y axes coincide with X', Y' axes (respectively).

## PURLINS DIMENSIONS AND PROPERTIES

Product Code	Dimensions				Cross Section	Centroid at x-Axis	Mass Per Meter	Second Moment Of Area		Section Modulus		Radius Of Gyration	
	H	W	L	t				X	M	I <sub>x</sub>	I <sub>y</sub>	Z <sub>x</sub>	Z <sub>y</sub>
	mm	mm	mm	mm	mm <sup>2</sup>	mm	kg/m	x10 <sup>6</sup> mm <sup>4</sup>	x10 <sup>6</sup> mm <sup>4</sup>	x10 <sup>3</sup> mm <sup>3</sup>	x10 <sup>3</sup> mm <sup>3</sup>	mm	mm
CP 7510	75	41	8	1.0	169	13.5	1.327	0.1600	0.0381	4.270	1.380	31.00	15.00
CP 10010	100	41	10	1.0	198	12.4	1.554	0.3150	0.0450	6.300	1.570	40.00	15.00
CP 10012	100	41	10	1.2	237	12.4	1.860	0.3750	0.0531	7.500	1.860	40.00	15.00
CP 10016	100	50	17	1.6	348	17.8	2.736	0.5484	0.1229	10.968	3.810	39.68	18.78
CP 10020	100	50	17	2.0	431	17.7	3.390	0.6730	0.1494	13.461	4.624	39.50	18.61
CP 12516	125	50	17	1.6	388	16.0	3.050	0.9249	0.1331	14.799	3.913	48.81	18.51
CP 12520	125	50	17	2.0	481	15.9	3.782	1.1376	0.1618	18.201	4.750	48.61	18.33
CP 15016	150	65	20	1.6	486	21.1	3.817	1.7177	0.2858	22.903	6.511	59.46	24.26
CP 15020	150	65	20	2.0	603	21.0	4.741	2.1194	0.3497	28.259	7.954	59.27	24.07
CP 15025	150	65	20	2.5	748	21.0	5.879	2.6063	0.4254	34.751	9.661	59.02	23.85
CP 20016	200	75	20	1.6	598	21.9	4.679	3.6835	0.4439	36.835	8.353	78.50	27.25
CP 20020	200	75	20	2.0	743	21.8	5.841	4.5561	0.5444	45.561	10.231	78.29	27.06
CP 20025	200	75	20	2.5	923	21.7	7.254	5.6201	0.6643	56.201	12.466	78.02	26.82
CP 25020	250	75	20	2.0	843	19.3	6.627	7.7029	0.5825	61.623	10.452	95.57	26.28
CP 25025	250	75	20	2.5	1048	19.2	8.236	9.5159	0.7108	76.127	12.736	95.28	26.04
CP 30020	300	100	20	2.0	1043	25.6	8.198	14.1241	1.2513	94.161	16.810	116.35	34.63
CP 30025	300	100	20	2.5	1298	25.5	10.200	17.4878	1.5347	116.586	20.593	116.07	34.38

## PURLIN SELECTION TABLES DOR ROOFING APPLICATION

The selection tables are provided for easy reference to select appropriate purlin size in accordance with the bay width or column spacing of the building.

For optimum design where specific roofing and insulation loads are to be used, we recommend consulting with our team for solutions tailored to your specific needs. The tables are for the general in Malaysia.

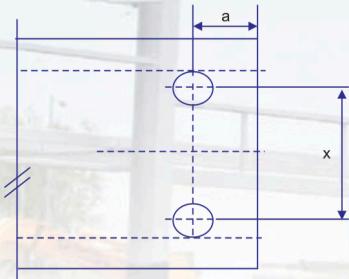
Span (mm)	Purlin Spacing 1200 mm	Purlin Spacing 1500 mm	Purlin Spacing 1800 mm	Purlin Spacing 2100 mm
4000	CP10016	CP10020	CP12516	CP15016
4500	CP12516	CP12516	CP15016	CP15020
5000	CP12520	CP15016	CP15020	CP15025
5500	CP15016	CP15020	CP15025	CP20020
6000	CP15020	CP15025	CP20016	CP20025
7000	CP20016	CP20016	CP20020	CP20025
8000	CP20020	CP20020	CP25020	CP25020
9000	CP20025	CP25016	CP25020	CP25025
10,000	CP25020	CP25020	CP25020	-
11,000	CP25025	CP25025	CP25025	-
12,000	CP25025	-	-	-

Note: The Purlin Quick Selection Table are derived in accordance to BS 5950 : Part 5 : 1987, "Code of Practice for Design of Cold-Formed Section" with maximum roof pitch 30° and roofing sheet distributed load 6.55kg/m<sup>2</sup>.

## ● HOLING, CLEAT AND THE ROD FOR COLFORM PURLIN

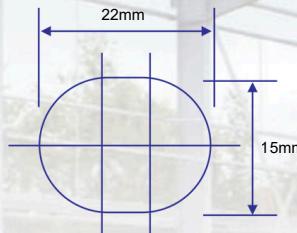


### HOLE DETAILS & GAUGE LINE

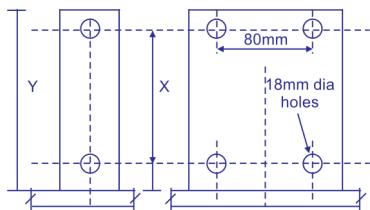


Standard a = 45mm  
Minimum a = 30mm

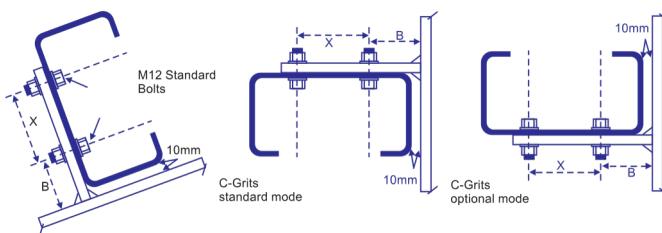
Series C	Minimum X (mm)
100	40
125	40
150	40
200	60
250	100
300	150



### CLEATS

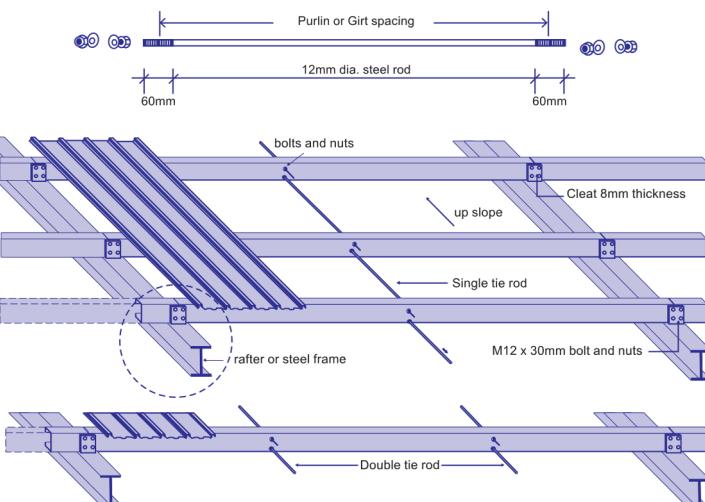
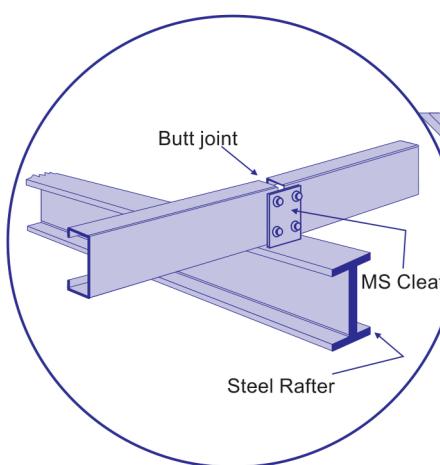


### FASTENING TO CLEATS



Channel / Girt Nominal web Depth. mm	Recommended Dimension		
	B	X	Y
100	40	40	110
125	52.5	40	125
150	55	60	150
200	55	110	200
250	85	100	250
300	85	150	300

### DETAILS OF STANDARD TIE ROD



TYPICAL ARRANGEMENT OF SIMPLE SPAN C - PURLLINS

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